



WILDLIFE MANAGEMENT AND RESEARCH NOTES

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	TITLE: 2004 Deer Hunter Survey	

ABSTRACT:

A questionnaire was mailed to a stratified random sample of 19,429 licensed Indiana deer hunters following the 2004 hunting season. The intent of this study was to examine the distribution of hunting pressure across the state, hunter success rates in all segments of the hunting season, and hunter use of these various season segments. The adjusted response rate of 45.2% continues the trend of decreasing response rate and is considerably lower than in previous surveys. During 2004, there were an estimated 123,408 licensed deer hunters and 151,820 deer hunters who actually hunted deer, including landowners and military personnel. The largest percentage of survey respondents hunted in the firearms segment (95.29%). Approximately 62% of the survey respondents hunted with multiple equipment types, while 38% used only a single equipment type. Ninety-five percent (95%) of respondents used a shotgun, handgun, or muzzleloader yielding a statewide estimate of 144,077 firearms hunters including landowners. The statewide total licensed hunter effort during the 2004 season was 2,774,596 hunter days, and the total overall hunter effort including landowner / military personnel was estimated at 3,478,232 hunter days. Statewide success rates by segment, calculated as the harvest/hunter, for the 2004 season were 0.31, 0.38, 0.65, 0.37, and 0.10 for the early urban, early archery, firearms, muzzleloader, and late archery segments respectively. When calculated as the percentage of hunters who harvested at least 1 animal, success rates were 0.25, 0.32, 0.50, 0.32, and 0.09 for the above segments. Twenty-five percent (25%) of the respondents reported hunting on some public land, 75% reported hunting only on private land, and 8% reported hunting only on public land. When extrapolated statewide, 30,852 hunters (excluding landowners) produced roughly 286,924 hunting efforts for deer on FWA's in 2004. The average hunter effort and the success rates on private land was significantly higher than on public lands. Overall, 69% of respondents gave a positive rating to deer management in Indiana compared with the 15% which gave a negative rating. Overall, respondents marginally supported only the following options for a youth season: 1) one weekend in Early Archery with archery open, and 2) the last weekend in September before Early Archery, each having a positive to negative ratio of 1.1:1 and 1.2:1, respectively. Respondents more strongly opposed the option of one weekend in Early Archery with the archery segment closed (-1.8:1). When considering crossbow use, respondents most strongly supported the status quo (use in the Late Archery segment only) with a positive to negative ratio of 1.7:1. Respondents marginally supported the following options: 1) crossbow use in the Early Archery segment and 2) crossbow use in any archery legal segment, each having a positive to negative ratio of 1.2:1 and 1.4:1, respectively. Respondents mildly opposed the option of crossbow use during the firearms segment (-1.2:1) and crossbow use in the Late Archery segment for antlerless deer only (-1.3:1). Opposition was stronger for the option of crossbow use during any archery legal segment but for antlerless deer only (-1.7:1). Six percent (6%) of all respondents reported hunting in an Urban Deer Zone (UDZ) in

either 2003 or 2004. Antlerless deer harvest was 55% of the total UDZ harvest reported by respondents for 2003 and 50% for 2004.

OBJECTIVE

To determine the distribution of hunting pressure and the success rates for Indiana deer hunters.

PROCEDURES

Sampling

A stratified random sample of deer hunter names and addresses was obtained from carbon copies of resident and non-resident generic deer licenses and youth hunting licenses from the 2004 deer season. These licenses were collected from vendors by Division of Fish & Wildlife personnel. The number of hunters selected from each county was based on the number of deer hunting licenses sold in that county in 2002 as the data from the previous year (2003) was unavailable at the time of survey construction. A random sample of lifetime license holders was obtained from the State License Unit's master list. Resident and non-resident generic deer license holders, youth license holders, and lifetime license holders were sampled in proportion to their estimated occurrence in the total population of licensed Indiana deer hunters. A questionnaire (Fig. 1) was mailed to each of the 19,429 hunters in the sample in July, 2005. A follow-up mailing to non-respondents was made in September, 2005.

In 1998, the department conducted a non-response bias survey using the firm Responsive Management from Virginia. Non-respondents to the 1997 Deer Hunter Survey were called and asked the same questions as found in the mail survey. The survey results were used to assess response bias and to develop correction factors that could be applied to future mail surveys. Correction factors from the 1997 non-response bias phone survey were used in this survey where appropriate.

Survey respondents were accepted or rejected for inclusion in a specific analysis on an individual question by question basis based solely on whether they responded to the specific question.

License Holder Estimation

During 2004, licensed deer hunters in Indiana were composed of the following groups: residents and nonresidents who purchased 1 or more generic deer licenses, youth license holders who hunted deer, and lifetime license holders who hunted deer. The number of generic license holders was estimated by dividing the total number of generic licenses sold to resident and non-resident hunters in 2004 by the mean number of licenses purchased per respondent in each license group. The average number of licenses bought for resident hunters was reduced by a correction factor of 0.04 from the 1997 response bias survey. The number of youth and lifetime license holders who hunted deer during 2004 was estimated by multiplying the number of youth and lifetime license holders by the percentage of these license holders who indicated in the survey that they hunted deer. The percent of license holders who hunted deer in 2004 was decreased using correction factors from the 1997 survey in amounts of 0.18%, 1.68%, 1.61%, and 3.25% for resident, non-resident, youth, and lifetime license holders respectively. The total number of licensed deer hunters is found by the summation of the above estimates for each group.

The number of landowners, tenants, and military personnel who hunt deer but who are not required to buy a deer license is unknown. This quantity was estimated by dividing the registered harvest attributed to landowners and military personnel in 2004 by the overall success rate of all hunters in all segments of the season (number of deer killed/number of license buyers who hunted). The assumption is that the success of landowners and military personnel can be approximated by the success of the other hunters in the general population. It is likely that this assumption is violated. Experience, as well as check-station reports, indicated that landowners experienced slightly higher success than other hunters. However, there is presently no cost-efficient method of ascertaining the true population value.

Statewide Number of Hunters and Hunter Efforts by Season Segment

The number of licensed hunters participating in each segment of the 2004 Indiana deer season was estimated by multiplying the estimate of the total number of licensed hunters by the percentage of survey respondents who indicated that they hunted during a given segment. The percent of survey respondents participating in a segment was decreased by a correction factor of 0.73%, 0.91%, 1.02%, and 1.23% for early archery, firearms, muzzleloader, and late archery segments respectively. The estimated number of landowners hunting deer was determined by dividing the registered harvest from landowners by a success rate determined as the season-wide harvest per hunter.

When examining the percent of hunter participation by license type in the various season segments, raw survey values were reduced by corrections from the 1997 survey of 3.25%, 0.18%, and 1.61% for lifetime, resident, and youth license holders. Comparisons among groups were done using a Chi-square test and standardized residuals to establish potential relationships, followed by specific between-group testing examining differences through the use of tests of population proportions.

The number of hunter efforts (total days hunted) expended during each season segment was estimated by multiplying the estimated number of hunters in each segment by the mean number of days hunted for each segment calculated from survey response.

Number of Hunters and Hunter Efforts by County and Season Segment

Survey participants were asked in which county and how many days they hunted during each season segment. The total number of hunters in a county was estimated by multiplying the total number of hunters participating in the season segment by the percentage of respondents indicating that they hunted most in that county. This is certainly a minimum estimate as hunters could have hunted in the given county, but not listed it as their primary hunting area. The number of hunter efforts was estimated by multiplying the percentage of efforts for that county in the survey by the estimated statewide effort for that segment. Statistical comparisons for examining trends in the average number of hunter days afield were conducted using two-sample t-tests on 2002 and 2004 survey data.

Hunter Success Rates

Survey participants were asked how many deer, if any, they killed during each season segment. Hunter success rates are expressed in the following ways:

1. *Statewide in all Segments* (avg. harvest per hunter). This was calculated by first finding the average number of deer killed for each individual respondent and then taking the average of all individual values. The avg. harvest per hunter was also calculated by using the estimated number of all hunters in the state and the number of deer known to have been checked during the season.
2. *Statewide in all Segments* (avg. harvest per hunter effort). This was calculated by first finding the number of deer killed per effort for each individual respondent and then taking the average of all individual values.
3. *Statewide by Segment* (avg. harvest per hunter). This was calculated by dividing the overall segment harvest by the estimated number of hunters in that segment.
4. *Statewide by Segment* (avg. harvest per hunter effort). This was calculated by dividing the overall segment harvest by the estimated number of hunter-efforts in that segment.
5. *Statewide by Segment* (percentage of hunters who harvested 1 or more deer). This was calculated by dividing the number of respondents harvesting 1 or more deer by the total number of respondents in that segment.

Comparisons of success rates among hunters of the 5 different segments were conducted with an ANOVA followed by Tukey's post-hoc tests for pairwise comparisons with an alpha level of 0.05. When examining the relationships among the segments in respect to the proportion of hunters harvesting at least 1 deer, we used tests of two binomial proportions with an alpha level of 0.05 for all possible permutations of group pairings.

Hunter Effort on Public and Private Land

In an effort to estimate the hunter effort, hunter success rates, and satisfaction with the hunting experience on different lands, participants were asked to specify the number of days, the number of deer harvested, and satisfaction level for hunts on land owned by the government, Fish & Wildlife Areas, and land owned by private citizens (Fig. 1., Question 7). Statistical comparisons of days hunted, average harvest per hunter (success), and satisfaction score among different groups were conducted using ANOVA and t-tests for all possible permutations of any pairwise comparisons. For valuation of the hunter experience, a score of 1.0 was considered very positive, a score of 3.0 was neutral, and a score of 5.0 was considered very negative.

General License Purchase Questions:

Regular Firearms License Purchase and Use of the Opening Weekend of Firearms Season.—Participants were asked if they had purchased a regular firearms license and if they had participated in the opening and/or last weekend of the firearms season (Figure 1, Questions 2 and 5).

Bonus Antlerless License Purchases and Harvest.—Participants were asked the number of Bonus Antlerless Licenses purchased and the number of deer harvested on those permits (Figure 1, Question 2) in order to assess the demand for and usage of Bonus Antlerless Licenses.

General Deer Management Questions:

Urban Deer Zone Management.—In an attempt to assess segment use and success rates within the urban deer zones as well as in the new urban deer segment, survey participants were asked to identify the numbers of permits bought and the number of deer harvested for 2003 and 2004 (Figure 1., Questions 4 and 6).

Youth Firearms Season.—Respondents were asked to indicate their support or opposition to having a special youth firearms season under various conditions (Figure 1, Question 8). In examining relationships among license type, a Chi-square test was first used to establish the presence of a difference. Subsequent examinations were done using ANOVA and T-tests for pairwise comparisons involving non-residents since sample size was considerably smaller than other groups.

For valuation of the strength of support or opposition, a score of 1.0 was considered very positive, a score of 3.0 was neutral, and a score of 5.0 was considered very negative.

Use of Crossbows.—Respondents were asked to indicate their support or opposition to the use of crossbows as a legal hunting arm under various conditions (Figure 1, Question 9). In examining relationships among license type, a Chi-square test was first used to establish the presence of a difference. Subsequent examinations were done using ANOVA and T-tests for pairwise comparisons involving non-residents since sample size was considerably smaller than other groups.

For valuation of the strength of support or opposition, a score of 1.0 was considered very positive, a score of 3.0 was neutral, and a score of 5.0 was considered very negative.

Satisfaction with Indiana Deer Management.—Given the effort over the past 20 years to slightly reduce the statewide deer population, survey participants were asked to indicate their satisfaction with overall deer management in Indiana (Figure 1, Question 10).

In examining relationships among license type, a Chi-square test was first used to establish the presence of a difference. Subsequent examinations were done using ANOVA and T-tests for pair wise comparisons involving non-residents since sample size was considerably smaller than other groups.

For valuation of the hunter satisfaction with deer management, a score of 1.0 was considered very positive, a score of 3.0 was neutral, and a score of 5.0 was considered very negative. Comparisons of satisfaction among various sub-populations were conducted using ANOVA with Tukey post hoc tests at an alpha level of 0.05.

RESULTS and DISCUSSION

Sampling

A total of 19,429 questionnaires were mailed following the 2004 hunting season with the following distribution: resident generic deer license holders (10,416), youth license holders (4,044), lifetime hunting and fishing license holders (4,229), and non-resident generic deer license holders (740). A total of 8,344 questionnaires were returned yielding a response rate of 45.2% after adjustment for 956 non-deliverable surveys.

The adjusted response rate of 45.2% continues the trend of decreasing response rate and is considerably lower than in previous surveys. The 2004 value represents a decrease in response rate of 2.6 percentage points from the 2002 survey, 9.4 percentage points from the 2000 survey, and 12.5 percentage points from the 1997 survey. Response rates for each of the license sub-groups were as follows: resident (52%), youth (8%), combined lifetime (34%), and non-resident (32%).

While it is difficult to identify the exact cause(s) for the decline in survey participation, there are a few factors that may impact response rate that should be mentioned. The first factor is survey length, which steadily increased over time. The 1995 and 1997 surveys were short surveys printed on self-mailers of one half of a page. Figure 1 illustrates the full-page survey of much greater complexity than those in the 1990's and similar to those in 2000 and 2002. Other state researchers, as well as Responsive Management consultants, have stated that there is generally an attendant decrease in response rate as survey length and complexity increase. The second factor, somewhat related to the first factor, is that our survey is competing for time with other activities in a society where the pace of life continues to increase. This condition may be acting in concert with a social perception that the participant's opinion or comment has no effect on the system, thus reducing the desire to make the effort of survey participation. Perhaps the most significant cause for the decline in response rate for this survey vs. those prior to 2002 is the cessation in 2002 of providing a raffle for respondents where the winner was awarded a lifetime comprehensive hunting license worth several hundred dollars.

Number of Licensed Indiana Deer Hunters

Licensed deer hunters in Indiana were composed of the following groups: residents and nonresidents who purchased 1 or more generic deer licenses, youth license holders who hunted deer, and lifetime license holders who hunted deer. During 2004, 107,544 resident deer licenses were sold. This value represents a decrease of roughly 51% from the number sold prior to the 2002 survey and 68% from the number sold prior to the 2000 survey. The average number of licenses bought per resident hunter was 2.39 when adjusted using a correction factor from the 1997 survey. This value shows a decrease of 0.07 licenses per hunter from the 2002 survey. The percentage of resident license holders who hunted in 2004 was 99.8%, which is an increase of 0.67 percentage points from 2002. Thus, the estimated number of resident hunters purchasing generic deer licenses is 44,997 while the number who hunted in this group is estimated at 44,825 (Table 1).

Total non-resident license sales for 2004 (4,322) were down 6% from 4,602 in 2002. The average number of licenses bought per non-resident hunter was 1.33. The estimated number of non-resident licensed hunters is 3,250, while the number who hunted is estimated at 3,195 (Table 1).

Youth license sales totaled 32,486 in 2004, which is a decrease of 2% from the 33,220 sold in 2002. Approximately 95.74% of the youth license-holders hunted deer in at least one season segment. The

statewide estimate for the number of youth license holders who hunted deer in 2004 is 31,102, an increase of 769 from 2002 (Table 1).

Lifetime licenses sold through 2004 totaled 46,415, which is an increase of 15,050 licenses from the number sold through 2002. Approximately 95% of the lifetime license holder respondents hunted deer in at least one season segment, which is a slight increase from the 93% who hunted deer in 2002. The estimated number of lifetime license holders hunting deer in 2004 is 44,286. The summation of the above licensed deer hunters yields an estimated statewide total of 127,148 licensed hunters with 123,408 hunters participating in the Indiana deer season for 2004 (Table 1).

The registered deer harvest attributed to landowners and military personnel was 19,320, which was 15.7% of the overall season harvest. This percentage is a slight increase from the value reported in 2002 where landowners accounted for approximately 14% of the harvest. The success statistic used to determine the estimated number of landowners hunting deer was 0.68 deer harvested per hunter. The number of landowners, tenants, and military personnel who hunt deer on their own land or are not required to buy a license was estimated as 28,412. Thus, the estimated total of all deer hunters for the 2004 season is 151,820, a 10% decrease from 2002 (Table 1).

As discussed later in the report, the decline in license sales may be partially attributed to a number of factors categorized as business marketing (a large increase in lifetime license holders and substantial price increases for resident and non-resident hunters), management decisions (the 1-buck rule), and various social factors (aging population, competition for time, and urbanization).

Hunter Participation in Various Season Segments.

Survey Participants were asked in which segments of the hunting season they participated and the number of days afield for each segment during 2004. The largest percentage of survey respondents hunted in the firearms segment (95.29%). The early archery segment was listed as the second most popular segment (64.77%); followed by the muzzleloader (62.58%), late archery (37.17%), and Early Urban (6.3%) segments (Table 2). Hunter use of the late archery season and muzzleloader season showed the strongest increases from the 2002 survey, with a 9.78 and an 18.12 percentage point increase, respectively.

Approximately 62% of the survey respondents hunted with multiple equipment types. Hunters using only a single equipment type constituted 38% of all respondents. Among single equipment users, shotgun-only was the most popular followed by muzzleloader-only and archery-only with values of 26.4%, 6.2%, and 4.7% respectively (Table 3). Ninety-four percent (94%) of respondents used a shotgun, handgun, or muzzleloader yielding a statewide estimate of 144,077 firearms hunters including landowners. Hunter use of different equipment types in the 2004 Indiana deer season by each equipment type is shown in Table 3 and Figure 2.

It is of value to determine the hunter behavior of the different sub-populations of constituents. Table 4 shows the participation in the various segments of the 2004 Indiana deer season tabulated by license type. Significant differences in participation existed among the various license holder groups (Chi-Square = 57.08, $P < 0.001$). Youth and non-resident respondents showed similar use patterns and reported significantly less participation in all segments. Youth license holders showed significantly less participation in both archery segments and the muzzleloader segment compared to the lifetime license holders ($P < 0.01$). Lifetime license holders reported significantly more participation in both archery segments and the muzzleloader segment than all other groups ($P < 0.01$).

Statewide Number of Hunters and Hunter Efforts by Season Segment

Survey participants were asked in which segments they participated and the number of days they hunted in each of the season segments during 2004. The firearms segment had the largest number of participants among licensed hunters (117,595) followed by the early archery (79,931), muzzleloader (77,229), late archery (45,871), and the early urban (7,775) segments (Table 2). Compared with the 2002 survey, the number of licensed participants in the firearms segment and early archery segment decreased,

while the number of licensed participants in the muzzleloader and late archery increased by 15.3% and 11.2%, respectively. Corresponding values for all segments that include the landowner / military personnel component are shown in Table 5.

The estimated statewide total licensed hunter effort during the 2004 season was 2,774,596 hunter days, a slight decrease of 4.1 percent from 2002, and the total estimated overall hunter effort including landowner / military personnel was 3,478,232 hunter days. The greatest number of hunter efforts (1,127,832 for licensed hunters and 1,387,489 for all hunters) was expended during the early archery segment. This segment was followed by the firearms, muzzleloader, late archery, and early urban segments, respectively (Tables 2 and 5, Figure 2).

The average number of days per hunter in each segment, showed a significant difference from values of the 2002 survey only in the early archery segment ($P < 0.009$). The early archery season had the largest average number of days per hunter (14.11) followed by firearms, late archery, early urban, and muzzleloader segments, respectively (Tables 2 and 5).

Trends in Hunters and Hunter Efforts

The estimated number of licensed hunters decreased 18.1% from 150,662 in the 2002 survey to 123,408 in the 2004 survey. This continues the decline in hunter estimates from 154,595 in the 2000 survey. License sales declined 110,072 units (50.6%) from 2002 to 2004 following a 32.4% decline in 2002 from 2000. The decrease in the estimated number of hunters most likely represents the continued decline in participation in the sport at large. The major decrease in licenses sold is partly a reflection of the large increase in lifetime license sales from 2000 to 2004 (+229% in 2002 and +48% in 2004). In addition to the above, the 2004 survey showed a slightly lower average number of licenses purchased per hunter compared with the 2002 survey.

Hunter participation increased in all segments of the season: Early Archery (9.7 percentage points), Firearms (2.8 percentage points), Muzzleloader (18.1 percentage points), Late Archery (9.8 percentage points), and Early Urban (1.2 percentage points). Hunter efforts increased primarily in the Muzzleloader and Late Archery segments although the firearms segment also saw a slight increase in the average number of hunter days.

Number of Hunters and Hunter Efforts by County and Season Segment

The counties with the largest hunter effort in days during the 2004 early archery segment were LaPorte (29,402), Tippecanoe (29,079), Harrison (27,766), Steuben (25,721), and Jackson (23,935) (Table 6). During the 2004 Firearms segment, Jackson (21,833), Harrison (20,464), Steuben (17,904), Clark (17,868) and Kosciusko (16,659) counties had the greatest hunter effort (Table 7). The largest number of efforts during the muzzleloader segment was expended in LaPorte (13,772), Steuben (12,039), Clark (10,853), Harrison (10,671), and Jackson (9,941) counties (Table 8). Counties with the largest hunter efforts during the late archery segment were LaPorte (9,411), Harrison (9,142), Jennings (8,739), Lake (7,798), and Tippecanoe (7,610) (Table 9).

Four (4) counties received > 60,000 total hunter efforts, which is a decrease of two from the 2002 survey. Ten (10) counties received 45,001 to 60,000 efforts, 32 counties received 30,001 to 45,000 efforts, 34 counties received 15,000 to 30,000 efforts, and 14 counties received < 15,000 efforts for the 2004 survey (Table 10).

Hunter effort per square mile was highest in Steuben (196), Dearborn (161), Switzerland (150), Clark (143), and Harrison (142) counties (Table 10). Ten counties experienced >120 efforts/sq. mi., which was the same as in the 2002 survey and a decrease of 16 counties from the 2000 survey. Twenty-six (26) counties received 80-120 efforts/sq. mi., 43 counties experienced 40-79 efforts/sq. mi., and 13 counties had <40 efforts/sq. mi. (Table 10).

Hunter Success Rates

Survey participants were asked how many deer, if any, they harvested during each segment of the season. When using the total harvest summed across all season segments/hunter for each individual in the survey, the statewide success rate in 2004 was 0.85 (up from 0.77 in 2002, 0.69 in 2000, and 0.77 in 1997). When using the registered harvest by licensed hunters (103,738 deer) and the estimated total number of licensed hunters in the year (123,408), the success rate was 0.84 for 2004, compared with 0.60 for 2002, 0.57 for 2000, and 0.46 for 1997.

Statewide success rates by segment calculated as the harvest/hunter for the 2004 season were 0.31, 0.38, 0.65, 0.37, and 0.10 for the early urban, early archery, firearms, muzzleloader, and late archery segments respectively (Table 11 and Figure 3). Early Urban rates decreased 0.02 deer/hunter from the 2002 survey. Early Archery, Firearms, Muzzleloader, and Late Archery rates increased 0.09, 0.13, 0.13, and 0.03 deer/hunter from the 2002 survey, respectively. When calculated as harvest/effort, the values for the segments in 2004 were 0.04, 0.03, 0.09, 0.06, and 0.01, respectively. These values represent little change, if any, from 2002.

The statistical distribution of harvest/hunter and harvest/effort calculations is skewed toward zero. As an example, for the season as a whole, roughly 49% of the hunters did not harvest an animal. This situation makes it difficult to use certain parametric statistics, such as a mean, with confidence. Transformations of the data were equally unsuccessful. Another approach is to calculate the proportion of hunters who harvested at least 1 animal, which is treating the analysis as a binomial. Calculated success rates in this case were 0.25, 0.32, 0.50, 0.32, and 0.09 for the early urban, early archery, firearms, muzzleloader, and late archery segments, respectively (Table 11). Early Urban rates decreased 0.02 from 2002, while Early Archery, Firearms, Muzzleloader, and Late Archery rates each increased 0.07, 0.09, 0.10, and 0.03, respectively.

Hunters in the firearms segment had a significantly higher success rate than all other segments (ANOVA; $F = 328$, $P < 0.001$). Firearms also had a significantly higher percentage of hunters harvesting more than 1 deer ($P < 0.001$ vs. early archery and muzzleloader). While across all segments of the season 49% of hunters harvested 0 deer, few hunters (7.9%) harvested 3 or more deer in 2004, which is slightly higher (1.3%) than the 2002 and 2000 values (Table 12).

Hunter Effort and Satisfaction on Public and Private Land

Survey respondents were asked to provide information on their usage and satisfaction with public land that was not a Fish and Wildlife Area (FWA), FWAs, and private land. Of the respondents in the 2004 survey, 25% of the hunters reported using some public land. This measure is a 1% decrease from the 2002 survey, and a sharp decrease from the 53% reported in 2000. Eight percent (8%) reported hunting only on public land, which was similar to the value reported in 2000. Seventy-five percent (75%) of the respondents reported hunting only on private land, which is about the same as reported in 2002 (74%) and is much higher than the 47% reported in 2000.

The shift in hunter use from public lands (61% in 2000 vs. 25% in 2004) to private lands could be attributable to a number of factors, and realistically the true answer may be a combination of these factors. First, the data points from 2000 (61%) may be statistical outliers and not represent the typical values. This would make sense, as the amount of respondents hunting some public land was 28% in 1997, 26% in 2002, and 25% in 2004. Second, this survey included a greater number of lifetime license holders compared to pre-2002 surveys due to the increase in the lifetime license holders in the overall license-buying population. In general, lifetime license holders tend to be more active in the sport and only 29% of lifetime license buyers hunted on any public land, which would indicate the bulk of their effort is directed toward private lands. Third, those hunters left in the population of active hunters may place a higher priority on hunting and have made the additional effort to secure access to private lands closer to home, whether leased or not, which would provide more time for hunting rather than traveling. Fourth, this move could be a reaction to a perceived degradation of the hunting experiences on public land from over-crowding, limited access (drawings at FWAs etc.), and limited success. Fifth, increasing costs were cited by respondents in the 2002

survey as a major influence in their decisions concerning participation. Hunters may believe that moving to private lands will maximize their benefits as related to the amount of money invested and the competition for other demands on their time.

Public Lands.—Hunters who hunted on public land that was not a FWA spent an average of 7.4 days hunting for deer and had a success rate of 0.45 deer/hunter in 2004. Both values represent an increase from the 6.3 days per hunter and the success rate of 0.37 deer per hunter that was found in the 2002 survey, and were similar to the results found in the 2000 survey (7.5 days hunting and 0.47 deer/hunter). Sixty-five percent (65%) of these hunters reported a positive experience and 14% reported a negative hunting experience, which was a slight improvement from the 57% positive and 22% negative values reported in the 2002 survey. Archery-only (AO) and gun-only (GO) hunters on public lands showed significant differences in the mean number of days hunted ($0_{AO} = 3.84 \pm 0.92$ SEM, $0_{GO} = 2.06 \pm 0.15$ SEM, $T = -3.35$, $P < 0.001$); however, archery-only (AO) and gun only (GO) hunters did not show a significant difference in success rates ($0_{AO} = 0.22 \pm 0.097$ SEM, $0_{GO} = 0.34 \pm 0.041$ SEM, $T = -1.03$, $P < 0.302$) nor a difference in the rating of their hunting experience ($0_{AO} = 2.11 \pm 0.10$ SEM, $0_{GO} = 2.23 \pm 0.070$ SEM, $T = 0.62$, $P < 0.54$). The group scores used to rate the hunting experience for both the archery-only and the gun-only hunters were found in the positive region which equated with a “Satisfied” valuation (Table 13).

Hunters on FWAs reported spending an average of 9.2 days afield and yielded a success rate of 0.34 deer/hunter. These values were slightly higher than the 8.9 days afield average and 0.33 deer per hunter success rate that was found in the 2002 survey. Again, hunters reported more positive experiences than negative ones (66% vs. 13%). Positive ratings increased from 54% in 2002, and negative ratings decreased from the 25% reported in 2002. Archery-only and gun-only hunters on FWAs compared differently than above. The archers, showed a significantly greater mean number of days afield than gun hunters ($0_{AO} = 10.83 \pm 2.12$ SEM, $0_{GO} = 3.90 \pm 0.27$ SEM, $T = -5.40$, $P < 0.001$). However, the archers and the gun hunters showed no significant differences in the rating of their hunting experience ($0_{AO} = 2.29 \pm 0.06$ SEM, $0_{GO} = 2.27 \pm 0.03$ SEM, $T = -0.30$, $P < 0.77$), as well as no difference in success ($0_{AO} = 0.33 \pm 0.095$ SEM, $0_{GO} = 0.230 \pm 0.044$ SEM, $T = -1.07$, $P < 0.285$). Both the archery-only group and the gun-only group scores were found in the positive region equated with the “Satisfied” valuation. When extrapolated statewide, excluding landowners, 30,852 hunters yielded 286,924 hunting efforts for deer on FWA’s in 2004.

Private Lands.—The average hunter effort and the success rate on private land was significantly higher than on public lands, with an average of 17.1 days afield and 0.94 deer/hunter reported. The days afield statistic is similar to the value from the 2002 survey (17.4) and the success rate represents an increase from those reported in 2002 (0.84 deer/hunter). The average hunter effort, in this case, was elevated by a number of archery-only hunters who spent a large number of days afield.

Hunter satisfaction was high for those hunting on private land, with 78% of hunters reporting positive experiences and 8% voicing a negative experience (Table 13), compared with 68% positive and 13% negative experiences reported in the 2002 survey. As would be expected due to lower hunter densities on private vs. public lands, hunter satisfaction was significantly higher on private land vs. public land with positive to negative satisfaction ratios of 10:1 for private land vs. 5:1 for the 2 categories of public land (Table 13). The comparison between the archery-only and gun-only hunters on private lands showed that the archers had a significantly greater mean number of days afield than gun hunters ($0_{AO} = 15.1 \pm 0.86$ SEM, $0_{GO} = 5.20 \pm 0.12$ SEM, $T = -23.24$, $P < 0.001$). The rating of the hunting experience for both groups was similar ($0_{AO} = 1.92 \pm 0.02$ SEM, $0_{GO} = 1.99 \pm 0.02$ SEM, $T = 1.25$, $P < 0.210$). Both groups remained in the positive region, which equated with the “Satisfied” valuation. There was no significant difference in success rates between the two groups ($0_{AO} = 0.57 \pm 0.045$ SEM, $0_{GO} = 0.59 \pm 0.017$ SEM, $T = 0.42$, $P < 0.676$).

Participation on the Opening and Final Weekends of the Firearms Segment

Overall participation in the opening weekend of the firearms segment was 85%, which is the same as the 2002 survey and similar to the 84% reported in 2000. Lifetime license holders had the highest

participation rate with 90%, and Non-Resident license holders had the lowest participation rate with 66% (Table 14). Participation in the last weekend of the firearms segment was significantly lower than participation on opening weekend ($P < 0.001$). Again, lifetime license holders showed the highest levels of participation (71%) and non-resident hunters indicated the lowest participation (28%).

Bonus Antlerless License Purchases and Harvest

Survey participants were asked if and how many Bonus Antlerless licenses they purchased and the number of deer, if any, they harvested during the season. Forty-nine percent (49%) of respondents purchased at least 1 Bonus Antlerless license in 2004. The survey averages were 0.64 Bonus Antlerless licenses purchased per hunter and 0.54 deer harvested per hunter. The average number of Bonus Antlerless permits represents a significant decrease from the 2002 survey value of 1.24, but the success rate remained essentially unchanged from the 2002 value of 0.53 deer/hunter. Success measured by the proportion of hunters harvesting 1 or more deer on Bonus Antlerless licenses was 0.46, and was similar to the 2002 survey value of 0.44.

Hunter Satisfaction with Deer Management in Indiana

Survey participants were asked to indicate their satisfaction with overall deer management in Indiana (Figure 1, Question 10). Over four times as many hunters were satisfied with current deer management than were dissatisfied (positive: negative ratio of 4.6:1), which is an improvement from the 2002 survey. Overall, 69% of respondents gave a positive rating to deer management in Indiana compared with the 15% which gave a negative rating. Hunters of public lands, while the least satisfied of the evaluated hunter sub-populations, still had a positive rating to negative rating ratio of 3.8:1 (Table 15 and Figure 4). Archery-only hunters (7.0:1) were slightly more satisfied than gun-only hunters (5.6:1), when comparing the basic positive to negative ratio, but were significantly less satisfied statistically because of the larger percentage of hunters who were "Very Dissatisfied" ($O_{AO} = 2.33 \pm 0.060$ SEM, $O_{GO} = 2.21 \pm 0.02$ SEM, $T = -2.10$, $P < 0.035$). However, both groups did give an overwhelmingly positive rating. In all cases, the number of hunters who had a positive rating increased more than 7% compared with the 2002 survey. The number of hunters with a neutral opinion as well as a negative rating decreased in all cases from the 2002 survey. It is clear that the respondents of the 2004 survey are very satisfied with overall deer management and have a more positive outlook than in 2002.

Survey Specific Questions

The survey specific questions for 2004 focused on 3 main areas: under what conditions, if any, would hunters support a special youth firearms segment, under what conditions, if any, would hunters support the use of crossbows as a legal hunting equipment, and the use of and success in the urban deer zones.

Special Youth Firearms Segment

Survey participants were asked to indicate support or opposition to a possible special youth firearms segment under several different scenarios. Overall, respondents marginally supported only the following options for a youth season: one weekend in Early Archery with archery open and the last weekend in September before Early Archery, each having a positive to negative ratio of 1.1:1 and 1.2:1, respectively (Table 16). Respondents opposed the option of one weekend in Early Archery with the archery segment closed (-1.8:1).

The survey showed significant differences when comparing respondent choices by license type (Chi Square=61.59, $P < 0.001$). Lifetime license holders held the strongest opposition to all specific options put forth, and somewhat predictably, Youth license holders were the most supportive of the three specific options.

Archery-only respondents and gun-only respondents were significantly different in their support for the three specific options presented (composite Chi Square=52.18, $P < 0.01$). Archery-only hunters strongly

opposed the option that closed the archery segment during the special hunt (-5.8:1) and mildly opposed the other two options (-1.4:1 for the option during Early Archery and -1.2:1 for the option before Early Archery). In contrast, Gun-only hunters were mildly supportive of all three special hunt options (1.3:1, 1.1:1, and 1.7:1).

When comparing responses by land use, there was no significant difference between responses from public land-only hunters and responses from those using private land for any of the survey options presented (Chi Square=7.97, $P<0.16$).

Respondents strongly opposed no special hunt under any conditions (-2.5:1).

Use of Crossbows

Survey participants were asked to indicate support or opposition to different conditions under which crossbow use would be acceptable. Overall, respondents most strongly supported the status quo, use in the Late Archery segment only, with a positive to negative ratio of 1.7:1. Respondents marginally supported the following options for crossbow use: in the Early Archery segment and in any segment in which archery equipment is legal, each having a positive to negative ratio of 1.2:1 and 1.4:1, respectively (Table 17). Respondents mildly opposed the option of use during the firearms segment (-1.2:1) and use in the Late Archery segment for antlerless deer (-1.3:1). Opposition was stronger for the option of use during any archery-legal segment but for antlerless deer only (-1.7:1).

The respondent's License type indicated significant differences (Chi Square = 88.81, $P<0.001$) in attitude toward crossbow use for all options except use in the Late Archery segment for antlerless deer only (1.6:1). Lifetime license holders opposed all options except for maintaining the status quo and strongly opposed the option of use during any archery-legal segment for antlerless deer only (-2.2:1). Aside from the status quo, Youth and Resident license holders were mildly supportive of the options allowing crossbow use during the Early Archery segment (1.2:1 and 1.3:1, respectively) and use in any archery-legal segment (both 1.6:1). However, both groups opposed the use of crossbows in the firearms segment (-1.1:1 and -1.2:1). Non-resident license holders were the only group to show any support for crossbow use in the Firearms segment (1.2:1).

Bow-only respondents and gun-only respondents differed significantly in their support of the various conditions for crossbow use (Chi Square=52.18, $P<0.001$). The options where these two groups had agreement were in support of the status quo with favorable ratios of 1.2:1 and 1.6:1, opposition to the use during any archery-legal segment but for antlerless deer (-2.4:1 and -1.3:1), and opposition to the Late Archery antlerless deer only option (-1.4:1 and -1.3:1). Bow-only hunters mildly supported crossbow use in the firearms segment (1.2:1) but opposed crossbow use during the Early Archery segment (-1.9:1) and in any archery-legal segment (-1.5:1). In contrast, gun-only hunters opposed use during the firearms segment (-1.5:1), but supported use in the Early Archery segment (1.6:1) and in any archery-legal segment (2.1:1).

Land use made little difference in the attitudes of respondents toward crossbow use. Both public land-only respondents and hunters of private lands supported the crossbow options of use in the Early Archery segment (1.3:1 and 1.1:1), in any archery-legal segment (1.8:1 and 1.4:1), and the status quo (1.5:1 and 1.6:1). Both groups opposed the use of crossbows in the firearms segment (both -1.2:1), any archery-legal segment for antlerless deer only (both -1.7:1), and the Late Archery segment for antlerless deer only (-1.5:1 and -1.3:1).

Urban Deer Zone Harvest

Survey participants were asked how many antlered and antlerless deer, if any, they harvested during the 2003 and 2004 seasons. Six percent (6%) of all respondents reported hunting in an Urban Deer Zone (UDZ) in either 2003 or 2004. Respondents harvested 239 antlered deer and 296 (55%) antlerless deer in UDZs in 2003. In 2004, hunters harvested 289 antlered deer and 288 (50%) antlerless deer in UDZs.

CONCLUSION

The most significant issues that this survey may bring to light are in hunter population estimates, the impacts of the large number of lifetime license holders, and the opinions expressed about the survey specific questions. It appears that the hunting population is continuing its slow decline, even among youth, and this is certainly not unique to Indiana. Regular license sales dropped again, while the increase in Lifetime license purchases continued. A majority of those hunters still afield seem to be maximizing their participation in multiple segments. Muzzleloader popularity increased and may be a result of attempts by remaining hunters to maximize license dollar value or possibly, the attractiveness of the rifle-like qualities of the new in-line muzzleloaders. The increase in most measures of success rates could be a result of more deer available for harvest and fewer, but more dedicated hunters, or some combination of the two.

The apparent shift in hunter efforts to private lands remained in this survey. This may be the result of a combination of factors, as discussed earlier, but could also be an area that may have been influenced by the increase in lifetime hunter numbers.

Hunter satisfaction on public land, FWAs, and private lands is high. Satisfaction with overall deer management is very positive overall as well, with all sub-groups tested, even the bow-only hunters, who historically have been critical. However, bow hunters still have a higher percent of “very dissatisfied” hunters than for gun hunters. Satisfaction increased substantially from the 2002 survey.

There seems to be very little support for a special youth segment except among youth hunters. As expected, lifetime license holders, who generally participate in archery segments, and bow-only hunters were strongly opposed to the option that closed Early Archery. The strongest support for crossbow use was to maintain the status quo. However, there is some mild support for expanding the use of crossbows into either all archery segments as a whole or in just the Early Archery segment. It isn't surprising that the bow-only hunters were the least supportive of these options or that the gun only hunters were the most supportive.

Given the large increase in Lifetime license holders, the decreases in general license purchases, and the probable change in the makeup of the hunting population since 1997, the response bias survey of 1997 should be repeated to establish new correction factors for the metrics routinely used in these surveys.

Table 1. License sales, average number of licenses bought per hunter, and estimated numbers of hunters from each group represented in the 2004 Indiana deer season.

	Lifetime	Youth	NResident	Resident	Landowner	Total
Respondents with a valid hunting license	1,421	302	238	5,415	n/a	7,376
Respondents hunting in at least one segment	1,402	294	238	5,404	n/a	7,338
Percentage who hunted	98.66	97.35	100.00	99.80	n/a	n/a
Percentage who hunted adjusted**	95.41	95.74	98.32	99.62		
Number of Lifetime licenses*	46,415					
Number of licenses purchased in 2004		32,486	4,322	107,544	n/a	144,352
Avg. number of licenses bought per hunter**	n/a	n/a	1.33	2.39	n/a	n/a
Number of hunters in this group	46,415	32,486	3,250	44,997		127,148
Number of hunters from this group afield	44,286	31,102	3,195	44,825	28,412	151,820

* Only contains Comprehensive and Comprehensive Hunting and Fishing

w/o Landowners

123,408

** Values adjusted by factors determined in the response bias testing conducted in the 1997 survey.

Table 2. The estimated use and effort for each segment of the 2004 Indiana deer hunting season for 123,408 estimated licensed hunters (excluding landowners) who were afield.

Segment	Hunter use (%)*	# Lic. Hunters	Avg. days/hunter*	Est. hunter efforts (days)
Early Urban	6.30	7,775	6.78	52,712
Early Archery	64.77	79,931	14.11	1,127,832
Firearms	95.29	117,595	7.32	860,799
Muzzleloader	62.58	77,229	5.96	460,283
Late Archery	37.17	45,871	7.10	325,682
Total				2,774,596

*Values (except Early Urban) adjusted by factors determined in the response bias testing conducted with the 1997 Deer Hunter survey.

Table 3. Hunter use (including landowners) of different equipment types in the 2004 Indiana deer season for each equipment type and the combined percentage of single equipment users.

Equipment Type	Use %	Total number of hunters	Single equipment users (%)*	Total number of all single equipment users
Archery	51.7	78,491	4.7	7,136
Shotgun	78.0	118,420	26.4	40,080
Muzzleloader	51.9	78,795	6.2	9,413
Handgun	7.9	11,994	0.8	1,215
Crossbow	3.4	5,162	0.1	152
Firearms**	94.9	144,077	33.4	50,708

*The percent of single equipment users of that type out of all respondents marking at least 1 equipment type

**Firearms users were determined by the summation of the percentages for each permutation of equipment type that included a shotgun, a muzzleloader, or a handgun.

Table 4. Hunter participation in the 2004 deer season, participation in each segment of the 2004 Indiana deer season by those respondents who actually hunted, and an overall measure of success tabulated by license type.

License Type	Hunted In Any Season (%)*	Segments Hunted (%)**					Harvested At Least 1 Deer (%)
		Early Urban	Early Archery	Firearms	Muzzleloader	Late Archery	
Lifetime	95.45	7.3	81.0	97.6	83.1	47.0	70.6
Youth	95.79	4.4	48.0	97.6	56.5	25.9	50.9
Resident	99.62	6.3	63.0	96.3	59.6	37.5	54.8
Non-Resident	100.00	5.5	59.7	86.1	40.3	2.4	47.1

* Values adjusted by factors determined in the response bias testing conducted with the 1997 Deer Hunter survey.

** Values listed for the various segments were derived only from the percent of hunters in each license group that actually hunted in any season.

Table 5. Estimated number of all hunters afield including landowners, and hunter efforts for each segment of the 2004 Indiana deer hunting season.

Segment	Hunter use (%)*	# All hunters	Avg. days/hunter*	Est. hunter efforts (days)
Early Urban	6.30	9,565	6.78	64,848
Early Archery	64.77	98,334	14.11	1,387,489
Firearms	95.29	144,669	7.32	1,058,979
Muzzleloader	62.58	95,009	5.96	566,253
Late Archery	37.17	56,431	7.10	400,663
Total				3,478,232

*Values adjusted by factors determined in the response bias testing conducted in the 1997 survey

Table 6. Estimated number of deer license buyers hunting in each county and the estimated number of hunter efforts expended during the 2004 Early Archery Segment.

County name	Est. Hunters	Est. Efforts	County name	Est. Hunters	Est. Efforts
Adams	560	9,600	Madison	480	7,619
Allen	1,279	17,241	Marion	160	2,411
Bartholomew	560	6,672	Marshall	1,439	22,944
Benton	160	1,205	Martin	719	7,706
Blackford	160	2,152	Miami	959	11,924
Boone	400	2,368	Monroe	1,199	15,691
Brown	1,279	16,337	Montgomery	639	6,436
Carroll	400	6,672	Morgan	1,199	16,423
Cass	639	9,277	Newton	799	13,388
Clark	1,359	20,211	Noble	1,279	22,622
Clay	719	8,330	Ohio	400	5,704
Clinton	240	4,369	Orange	1,119	14,227
Crawford	879	11,558	Owen	1,119	15,885
Daviess	879	11,860	Parke	1,359	20,491
Dearborn	1,838	22,406	Perry	1,039	12,355
Decatur	160	2,454	Pike	1,119	13,818
Dekalb	1,119	15,153	Porter	959	12,979
Delaware	639	10,009	Posey	879	11,709
Dubois	1,279	17,370	Pulaski	1,199	13,495
Elkhart	959	13,732	Putnam	1,599	20,728
Fayette	560	8,975	Randolph	400	7,232
Floyd	320	3,788	Ripley	1,519	21,825
Fountain	400	4,348	Rush	320	3,917
Franklin	1,119	15,820	St. Joseph	799	13,130
Fulton	480	11,365	Scott	799	10,977
Gibson	959	11,494	Shelby	240	2,454
Grant	639	10,547	Spencer	560	9,083
Greene	1,359	13,689	Starke	799	11,343
Hamilton	560	7,619	Steuben	1,758	25,721
Hancock	160	3,659	Sullivan	799	13,797
Harrison	2,078	27,766	Switzerland	959	10,848
Hendricks	879	10,934	Tippecanoe	1,599	29,079
Henry	400	5,187	Tipton	160	2,970
Howard	719	11,408	Union	320	8,502
Huntington	799	13,539	Vanderburgh	400	4,520
Jackson	1,758	23,935	Vermillion	560	7,275
Jasper	1,119	17,607	Vigo	1,039	14,098
Jay	639	9,858	Wabash	959	13,409
Jefferson	1,279	17,865	Warren	719	13,130
Jennings	1,439	20,577	Warrick	1,119	12,462
Johnson	400	4,412	Washington	959	14,141
Knox	719	8,846	Wayne	560	5,446
Kosciusko	1,679	22,944	Wells	480	10,913
Lagrange	1,359	19,824	White	400	7,211
Lake	1,279	19,910	Whitley	719	10,805
LaPorte	1,838	29,402	Total*	79,773	1,127,834
Lawrence	719	10,697			

* Small differences from previous data due to rounding

Table 7. Estimated number of deer license buyers hunting in each county and the estimated number of hunter efforts expended during the 2004 Firearms Segment.

County name	Est. Hunters	Est. Efforts	County name	Est. Hunters	Est. Efforts
Adams	706	5,565	Madison	588	4,854
Allen	1,646	13,903	Marion	235	836
Bartholomew	941	6,721	Marshall	1,882	14,366
Benton	235	1,618	Martin	1,176	8,018
Blackford	235	1,067	Miami	1,176	8,232
Boone	470	2,827	Monroe	2,117	14,117
Brown	1,764	11,823	Montgomery	941	8,570
Carroll	470	3,805	Morgan	1,764	13,832
Cass	1,176	8,641	Newton	1,176	9,156
Clark	2,352	17,868	Noble	2,117	16,624
Clay	1,294	8,267	Ohio	706	4,036
Clinton	353	3,307	Orange	1,411	10,081
Crawford	1,764	13,014	Owen	1,999	13,352
Daviess	1,176	7,503	Parke	2,234	16,108
Dearborn	1,764	14,366	Perry	2,234	16,215
Decatur	470	2,525	Pike	1,999	14,081
Dekalb	1,764	12,570	Porter	1,176	8,676
Delaware	823	6,294	Posey	1,294	10,472
Dubois	2,117	14,650	Pulaski	1,411	10,241
Elkhart	1,646	11,717	Putnam	1,999	14,312
Fayette	823	6,472	Randolph	706	6,009
Floyd	353	2,525	Ripley	1,764	11,805
Fountain	706	5,583	Rush	588	5,049
Franklin	2,117	14,615	St. Joseph	1,176	8,783
Fulton	941	7,058	Scott	1,176	8,285
Gibson	1,529	10,881	Shelby	353	2,560
Grant	1,176	9,441	Spencer	1,294	9,121
Greene	1,882	11,663	Starke	941	5,565
Hamilton	588	4,978	Steuben	2,470	17,904
Hancock	353	2,116	Sullivan	1,529	10,027
Harrison	2,587	20,464	Switzerland	1,646	11,396
Hendricks	1,058	7,467	Tippecanoe	1,882	14,508
Henry	706	5,316	Tipton	235	1,529
Howard	470	4,000	Union	470	4,000
Huntington	1,294	10,472	Vanderburgh	588	3,787
Jackson	3,293	21,833	Vermillion	706	5,085
Jasper	1,411	10,436	Vigo	1,294	9,583
Jay	1,176	9,281	Wabash	1,764	13,779
Jefferson	1,764	14,188	Warren	1,294	10,063
Jennings	1,764	14,650	Warrick	1,529	10,099
Johnson	470	3,289	Washington	1,529	12,321
Knox	1,058	8,250	Wayne	706	5,387
Kosciusko	2,234	16,659	Wells	706	4,854
Lagrange	1,764	13,032	White	1,058	8,303
Lake	1,294	9,387	Whitley	823	6,792
LaPorte	2,117	15,450	Total*	117,250	860,802
Lawrence	1,294	10,472			

* Small differences from previous data due to rounding

Table 8. Estimated number of deer license buyers hunting in each county and the estimated number of hunter efforts expended during the 2004 Muzzleloader Segment.

County name	Est. Hunters	Est. Efforts	County name	Est. Hunters	Est. Efforts
Adams	541	2,782	Madison	309	2,417
Allen	1,236	8,208	Marion	154	958
Bartholomew	386	1,733	Marshall	1,236	8,824
Benton	154	524	Martin	772	3,922
Blackford	232	1,026	Miami	695	4,355
Boone	463	2,782	Monroe	1,236	6,111
Brown	1,313	6,384	Montgomery	695	4,355
Carroll	463	2,394	Morgan	1,467	7,889
Cass	850	4,720	Newton	1,004	5,791
Clark	1,622	10,853	Noble	1,081	9,006
Clay	927	4,492	Ohio	463	2,006
Clinton	309	2,189	Orange	1,004	5,107
Crawford	1,158	6,179	Owen	1,004	4,492
Daviess	618	3,580	Parke	1,467	8,003
Dearborn	1,004	5,928	Perry	1,158	7,068
Decatur	232	1,163	Pike	1,158	5,860
Dekalb	1,158	7,228	Porter	1,004	5,814
Delaware	618	4,309	Posey	1,158	6,247
Dubois	927	5,860	Pulaski	1,004	5,427
Elkhart	850	5,153	Putnam	1,467	8,140
Fayette	309	2,599	Randolph	618	4,173
Floyd	232	1,505	Ripley	1,390	6,931
Fountain	541	2,622	Rush	386	2,577
Franklin	1,313	8,117	St. Joseph	927	6,886
Fulton	386	1,801	Scott	850	4,788
Gibson	772	4,173	Shelby	309	1,459
Grant	618	5,176	Spencer	850	3,967
Greene	1,158	7,114	Starke	618	2,577
Hamilton	232	2,394	Steuben	1,931	12,039
Hancock	386	1,414	Sullivan	772	3,671
Harrison	1,545	10,671	Switzerland	927	7,160
Hendricks	541	2,417	Tippecanoe	1,004	7,502
Henry	618	2,463	Tipton	154	730
Howard	386	2,417	Union	386	2,622
Huntington	695	5,997	Vanderburgh	386	1,756
Jackson	1,853	9,941	Vermillion	386	1,892
Jasper	1,236	7,502	Vigo	695	2,987
Jay	1,158	8,505	Wabash	1,081	6,498
Jefferson	1,313	7,844	Warren	618	5,586
Jennings	1,236	9,417	Warrick	927	4,127
Johnson	232	1,436	Washington	1,313	8,254
Knox	618	3,671	Wayne	541	3,489
Kosciusko	1,236	6,931	Wells	695	4,309
Lagrange	1,158	5,814	White	618	5,039
Lake	1,004	5,267	Whitley	541	3,511
LaPorte	2,085	13,772	Total*	77,231	460,284
Lawrence	850	5,495			

* Small differences from previous data due to rounding

Table 9. Estimated number of deer license buyers hunting in each county and the estimated number of hunter efforts expended during the 2004 Late Archery Segment.

County name	Est. Hunters	Est. Efforts	County name	Est. Hunters	Est. Efforts
Adams	229	1,721	Madison	275	2,044
Allen	734	4,759	Marion	138	914
Bartholomew	275	1,855	Marshall	780	5,674
Benton	138	484	Martin	367	2,124
Blackford	92	645	Miami	550	3,361
Boone	229	1,156	Monroe	505	4,571
Brown	826	5,243	Montgomery	321	1,694
Carroll	367	2,743	Morgan	688	5,217
Cass	459	1,909	Newton	688	3,818
Clark	734	6,050	Noble	688	4,302
Clay	596	2,716	Ohio	92	376
Clinton	183	2,044	Orange	688	4,921
Crawford	642	2,232	Owen	550	2,796
Daviess	505	3,899	Parke	550	4,114
Dearborn	780	6,642	Perry	505	3,442
Decatur	138	1,183	Pike	459	4,840
Dekalb	596	3,092	Porter	734	5,055
Delaware	367	4,356	Posey	413	3,496
Dubois	505	3,872	Pulaski	505	3,012
Elkhart	367	2,017	Putnam	872	5,620
Fayette	367	2,528	Randolph	229	1,936
Floyd	138	1,802	Ripley	780	5,351
Fountain	229	3,065	Rush	138	1,318
Franklin	734	4,679	St. Joseph	413	3,549
Fulton	321	2,796	Scott	321	2,151
Gibson	413	2,931	Shelby	229	1,479
Grant	459	2,958	Spencer	183	1,344
Greene	459	4,598	Starke	550	3,307
Hamilton	413	3,012	Steuben	734	4,813
Hancock	183	2,070	Sullivan	413	4,840
Harrison	1,376	9,142	Switzerland	550	3,738
Hendricks	505	3,469	Tippecanoe	1,147	7,610
Henry	229	2,716	Tipton	229	807
Howard	505	3,630	Union	275	2,124
Huntington	367	2,393	Vanderburgh	229	1,210
Jackson	734	5,243	Vermillion	413	2,097
Jasper	780	6,991	Vigo	688	3,845
Jay	367	3,522	Wabash	413	4,114
Jefferson	688	4,168	Warren	229	3,146
Jennings	1,009	8,739	Warrick	642	3,146
Johnson	367	2,259	Washington	872	5,190
Knox	596	4,006	Wayne	321	1,936
Kosciusko	780	5,943	Wells	459	3,818
Lagrange	642	4,464	White	229	2,823
Lake	1,055	7,798	Whitley	413	2,044
LaPorte	1,376	9,411	Total*	45,871	325,681
Lawrence	550	3,603			

* Small differences from previous data due to rounding

Table 10. The estimated number of licensed hunters, hunter efforts, and efforts/ sq. mi. by county for the 2004 Indiana deer season, excluding landowners and military hunters.

County name	Hunters	Efforts	Effort/sq.mi.	County name	Hunters	Efforts	Effort/sq.mi.
Adams	741	19,668	57	Marion	247	5119	13
Allen	1,727	44,111	66	Marshall	1975	51808	117
Bartholomew	988	16,981	42	Martin	1234	21770	63
Benton	247	3,831	9	Miami	1234	27872	74
Blackford	247	4,890	29	Monroe	2222	40490	105
Boone	493	9,133	21	Montgomery	988	21055	42
Brown	1,851	39,787	125	Morgan	1851	43361	107
Carroll	493	15,614	42	Newton	1234	32153	78
Cass	1,234	24,547	59	Noble	2222	52554	128
Clark	2,468	54,982	143	Ohio	741	12122	139
Clay	1,358	23,805	65	Orange	1481	34336	76
Clinton	370	11,909	29	Owen	2098	36525	94
Crawford	1,851	32,983	106	Parke	2344	48716	109
Daviess	1,234	26,842	62	Perry	2344	39080	102
Dearborn	1,851	49,342	161	Pike	2098	38599	115
Decatur	493	7,325	20	Porter	1234	32524	77
Dekalb	1,851	38,043	104	Posey	1358	31924	77
Delaware	864	24,968	63	Pulaski	1481	32175	74
Dubois	2,222	41,752	96	Putnam	2098	48800	100
Elkhart	1,727	32,619	70	Randolph	741	19350	42
Fayette	864	20,574	96	Ripley	1851	45912	104
Floyd	370	9,620	65	Rush	617	12861	31
Fountain	741	15,618	39	St. Joseph	1234	32348	69
Franklin	2,222	43,231	110	Scott	1234	26201	136
Fulton	988	23,020	63	Shelby	370	7952	19
Gibson	1,605	29,479	59	Spencer	1358	23515	59
Grant	1,234	28,122	67	Starke	988	22792	74
Greene	1,975	37,064	68	Steuben	2592	60477	196
Hamilton	617	18,003	45	Sullivan	1605	32335	71
Hancock	370	9,259	30	Switzerland	1727	33142	150
Harrison	2,715	68,043	142	Tippecanoe	1975	58699	117
Hendricks	1,110	24,287	58	Tipton	247	6036	23
Henry	741	15,682	39	Union	493	17248	103
Howard	493	21,455	73	Vanderburgh	617	11273	47
Huntington	1,358	32,401	88	Vermillion	741	16349	62
Jackson	3,456	60,952	117	Vigo	1358	30513	74
Jasper	1,481	42,536	76	Wabash	1851	37800	95
Jay	1,234	31,166	81	Warren	1358	31925	87
Jefferson	1,851	44,065	120	Warrick	1605	29834	76
Jennings	1,851	53,383	142	Washington	1605	39906	77
Johnson	493	11,396	36	Wayne	741	16258	40
Knox	1,110	24,773	48	Wells	741	23894	65
Kosciusko	2,344	52,477	97	White	1110	23376	47
Lagrange	1,851	43,134	113	Whitley	864	23152	69
Lake	1,358	42,362	83	Total	123,046	2,774,601	
LaPorte	2,222	68,035	112	Values for total hunters per county are derived by using the % of firearms hunters in a county and relating that value to the % of all hunters who used firearms in that segment.			
Lawrence	1,358	30,267	66				
Madison	617	16,934	37				

Table 11. Statewide hunter success rates for the entire season and by segment expressed as harvest per hunter, harvest per hunter effort, and the percentage of hunters harvesting 1 or more deer in the 2004 Indiana deer season.

	Early Archery	Firearms	Muzzleloader	Late Archery	Early Urban	Season
Harvest/hunter	0.38	0.65	0.37	0.10	0.31	0.85
Harvest/effort	0.03	0.09	0.06	0.01	0.04	0.05
Hunters w/ >= 1 deer (%)	0.32	0.50	0.32	0.09	0.25	0.51

Table 12. Statewide hunter success rates by segment and for the entire season expressed as the percentage of hunters harvesting 1 or more deer in the 2004 Indiana deer season.

Deer Harvest per Hunter	Season Segment					Season Total(%)
	Early Archery(%)	Firearms(%)	Muzzleloader(%)	Late Archery(%)	Early Urban (%)	
0	67.6	50.5	67.6	91.1	75.4	48.8
1	27.0	37.5	28.6	8.1	20.3	30.4
2	5.0	9.9	3	0.6	3.3	12.8
3	0.3	1.6	0.5	0.1	0	4.8
4	0.0005	0.4	0.2	0	1.1	2.0
5		0.1	0.06	0		0.8
6			0.0006	0.1		0.2
7						0.1
8+						0.0006
Harvest >= 1	32.3	49.5	32.4	8.9	24.7	51.1
N=	3443	6483	3094	1457	276	8076

Table 13. Hunter satisfaction (%) with their hunting experience on public, Fish & Wildlife Area (FWA), and private lands in the 2004 Indiana deer season.

Satisfaction Level	Code	Land Ownership		
		Public not a FWA	FWA	Private
Very Satisfied	A	22.2	21.2	35.2
Satisfied	B	42.7	45.2	42.8
Neither Satisfied nor Dissatisfied	C	19.6	18.9	13.1
Dissatisfied	D	9.6	8.3	5.1
Very Dissatisfied	E	4.4	4.8	2.9
No Opinion	F	1.6	1.5	0.9
Positive Experience	A+B	64.9	66.4	78
Negative Experience	D+E	14	13.1	8
Positive to Negative Ratio		4.6	5.1	9.8
N (% of Respondents)		12.1	12.9	81.1

Table 14. Participation (%) in the opening and last weekend of the firearms segment by respondents who hunted at least 1 day in the 2004 deer season, grouped by license type.

Participation	Lifetime	License Type			All Respondents
		Opening Weekend	Non-Resident	Resident	
Yes	89.9	66.0	84.9	87.1	85.3
No	10.1	34.0	15.1	12.9	14.7
<u>Last Weekend</u>					
Yes	70.5	28.2	68.1	68.7	67.3
No	29.5	71.8	31.9	31.3	32.7

Table 15. Hunter satisfaction with deer management in Indiana measured in the 2004 Deer Hunter Survey and shown as the percent of respondents.

Satisfaction Level	Code	Hunter Sub-population					All Respondents
		Bow Hunter1	Gun Hunter2	Public Land3	Public Land Only4	Private Land5	
Very Satisfied	A	19.4	20.5	19.5	22.4	18.4	18.8
Satisfied	B	49.3	51.5	46.8	47.0	51.7	50.6
Neither Satisfied nor Dissatisfied	C	14.1	13.2	15.5	15.3	13.2	13.7
Dissatisfied	D	5.0	10.1	11.7	7.9	11.3	10.8
Very Dissatisfied	E	4.8	2.7	5.8	6.1	4.1	4.2
No Opinion	F	0.0	2.0	0.8	1.2	1.2	1.8
Positive Rating	A+B	68.7	72.0	66.3	69.4	70.1	69.4
Negative Rating	D+E	9.8	12.8	17.5	14.0	15.4	15.0
Positive to Negative Ratio		7.0	5.6	3.8	5.0	4.6	4.6

1 defined as a respondent who hunted deer only with a bow at least 1 day

2 defined as a respondent who hunted deer only with a shotgun or handgun at least 1 day

3 defined as a respondent who hunted deer on public land at least 1 day

4 defined as a respondent who hunted deer only on public land at least 1 day

5 defined as a respondent who hunted deer on private land at least 1 day

Table 16. The percent of respondents indicating support for or opposition to a youth firearms season held before the regular firearms season under the condition below.

Condition	Code	All Survey Respondents	Number of Hunters (%)							
			License Type				Equipment Type		Land Use	
			Lifetime	Non Resident	Youth Resident	Resident	Bow Only Hunters	Gun Only Hunters	Public Land Only	Private Land
One weekend in Early Archery, with hunter orange, archery open										
Strongly Support	A	17.4	16.1	16.8	26.2	16.9	13.5	17.5	19.4	16.8
Support	B	26.3	26.2	28.6	25.8	26.1	22.8	27.1	27.6	26.2
Neither Support nor Oppose	C	11.3	10.3	8.4	13.2	11.7	9.5	14.0	9.3	11.7
Oppose	D	20.6	21.4	22.7	12.3	20.9	24.7	19.5	21.5	20.7
Strongly Oppose	E	19.8	23.8	18.9	15.9	19.7	27.3	15.4	17.8	20.5
No Opinion	F	4.7	2.2	4.6	6.6	4.7	2.1	6.6	4.4	4.1
Ratio - Support:Oppose[(A+B)/(D+E)] or Oppose:Support[(D+E)/(A+B)]		1.1	-1.1	1.1	1.8	1.1	-1.4	1.3	1.2	1.0
One weekend in Early Archery, with hunter orange, archery closed										
Strongly Support	A	13.1	11.8	10.9	15.6	13.3	5.6	17.4	13.6	12.6
Support	B	17.0	12.5	17.6	16.6	17.4	7.7	23.1	19.2	16.2
Neither Support nor Oppose	C	11.3	9.4	10.5	13.6	11.7	6.4	14.9	11.4	11.2
Oppose	D	22.8	25.2	25.6	20.2	22.4	24.4	20.1	23.0	23.2
Strongly Oppose	E	30.6	38.9	26.9	28.8	29.9	53.1	17.8	26.8	32.1
No Opinion	F	5.3	2.3	8.4	5.3	5.3	2.9	6.7	5.9	4.7
Ratio - Support:Oppose[(A+B)/(D+E)] or Oppose:Support[(D+E)/(A+B)]		-1.8	-2.6	-1.8	-1.5	-1.7	-5.8	1.1	-1.5	-1.9
Last weekend in SEP, before Early Archery, with hunter orange										
Strongly Support	A	19.8	18.4	18.5	27.8	19.3	14.1	21.5	20.0	19.3
Support	B	25.9	25.3	25.6	24.8	26.2	24.4	29.0	26.7	25.8
Neither Support nor Oppose	C	11.5	9.9	11.8	9.9	12.3	11.4	13.2	11.3	11.7
Oppose	D	17.4	18.3	16.8	14.6	17.3	15.4	15.8	17.7	17.6
Strongly Oppose	E	20.4	25.7	18.9	16.9	20.1	30.8	14.1	18.8	21.1
No Opinion	F	5.0	2.5	8.4	6.0	4.9	4.0	6.4	5.6	4.5
Ratio - Support:Oppose[(A+B)/(D+E)] or Oppose:Support[(D+E)/(A+B)]		1.2	-1.0	1.2	1.7	1.2	-1.2	1.7	1.3	1.2
Under Conditions not described here										
Strongly Support	A	7.0	6.7	5.9	8.9	7.1	11.4	6.4	7.2	6.9
Support	B	12.3	12.2	14.7	11.3	11.9	15.1	11.6	12.7	12.3
Neither Support nor Oppose	C	20.4	21.0	18.1	17.2	20.7	16.7	22.2	18.9	20.9
Oppose	D	10.9	10.1	11.3	8.9	11.4	13.3	9.7	12.3	10.9
Strongly Oppose	E	11.5	13.4	8.8	11.3	11.5	10.1	9.5	10.7	11.6
No Opinion	F	38.0	36.7	41.2	42.4	37.4	33.4	40.6	38.3	37.4
Ratio - Support:Oppose[(A+B)/(D+E)] or Oppose:Support[(D+E)/(A+B)]		-1.2	-1.2	1.0	-1.0	-1.2	1.1	-1.1	-1.2	-1.2

Table 17. The percent of respondents indicating support for or opposition to the use of crossbows under the conditions below.

Condition	Code	All Survey Respondents	Number of Hunters (%)							
			License Type				Equipment Type		Land Use	
			Lifetime	Non Resident	Youth	Resident	Bow Only Hunters	Gun Only Hunters	Public Land Only	Private Land
In Firearms segment										
Strongly Support	A	12.9	12.2	17.2	15.9	12.9	15.1	11.4	13.9	12.7
Support	B	24.3	26.0	31.5	21.5	24.0	28.9	22.0	24.5	24.5
Neither Support nor Oppose	C	12.8	13.5	6.7	12.6	12.8	15.9	12.4	12.5	12.9
Oppose	D	21.8	19.3	20.2	25.5	22.0	17.0	25.9	21.8	21.6
Strongly Oppose	E	23.1	25.0	19.7	17.2	23.5	19.4	22.7	22.4	23.6
No Opinion	F	5.1	4.1	4.6	7.3	4.8	3.7	5.6	4.9	4.7
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		-1.2	-1.2	1.2	-1.1	-1.2	1.2	-1.5	-1.2	-1.2
In Early Archery segment										
Strongly Support	A	16.0	14.0	17.6	17.9	16.4	10.9	16.1	16.3	15.9
Support	B	29.0	24.7	23.1	26.8	30.8	18.3	33.9	30.6	29.2
Neither Support nor Oppose	C	11.3	9.4	9.2	13.2	11.5	11.9	13.9	12.5	11.1
Oppose	D	16.8	18.8	18.5	18.2	16.2	17.5	16.3	14.8	17.0
Strongly Oppose	E	22.2	30.2	24.8	18.2	20.5	38.7	14.2	20.9	22.8
No Opinion	F	4.6	2.9	6.7	5.6	4.6	2.7	5.6	4.9	4.1
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		1.2	-1.3	-1.1	1.2	1.3	-1.9	1.6	1.3	1.1
In any segment in which archery equipment is legal										
Strongly Support	A	18.9	15.4	19.7	21.2	19.4	12.7	19.7	20.3	18.5
Support	B	30.6	26.2	28.6	29.5	32.2	21.5	36.0	34.1	30.5
Neither Support nor Oppose	C	11.4	10.1	8.8	11.6	11.7	14.1	12.8	10.8	11.5
Oppose	D	16.0	19.5	18.1	14.2	15.5	17.8	14.4	14.0	16.2
Strongly Oppose	E	18.8	25.8	19.3	18.2	17.2	31.8	12.3	16.0	19.5
No Opinion	F	4.2	3.0	5.5	5.3	4.1	8.0	4.8	4.7	3.8
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		1.4	-1.1	1.3	1.6	1.6	-1.5	2.1	1.8	1.4
Any archery-legal segment, but antlerless deer only										
Strongly Support	A	8.4	6.7	9.7	8.3	8.5	8.5	9.0	7.9	8.3
Support	B	19.2	17.7	16.4	13.6	20.2	14.3	21.3	19.5	19.2
Neither Support nor Oppose	C	19.4	16.4	13.4	19.9	20.0	16.7	22.6	18.9	19.5
Oppose	D	24.4	26.3	27.7	28.5	24.2	24.4	23.7	25.6	24.7
Strongly Oppose	E	21.2	27.5	23.5	21.2	19.9	31.0	14.9	19.8	21.6
No Opinion	F	7.4	5.4	9.2	8.6	7.2	5.0	8.5	8.2	6.8
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		-1.7	-2.2	-2.0	-2.3	-1.5	-2.4	-1.3	-1.7	-1.7

Table 17. Cont.

Condition	Code	All Survey Respondents	Number of Hunters (%)							
			License Type				Equipment Type		Land Use	
			Lifetime	Non Resident	Youth	Resident	Bow Only Hunters	Gun Only Hunters	Public Land Only	Private Land
In Late Archery segment only (as currently exists)										
Strongly Support	A	15.3	14.8	13.4	11.9	15.7	11.9	13.6	15.7	15.3
Support	B	31.5	32.7	24.4	26.5	31.9	33.4	30.1	29.7	31.6
Neither Support nor Oppose	C	17.6	16.4	11.3	22.8	18.1	14.3	20.3	17.1	17.9
Oppose	D	14.6	13.9	20.6	18.2	14.5	14.9	16.1	16.8	14.6
Strongly Oppose	E	13.7	15.7	21.8	14.2	12.8	21.8	11.1	13.4	13.9
No Opinion	F	7.3	6.5	8.4	6.3	7.0	3.7	8.8	7.3	6.9
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		1.7	1.6	-1.1	1.2	1.7	1.2	1.6	1.5	1.6
In Late Archery segment only and for antlerless deer only										
Strongly Support	A	8.8	8.8	8.8	6.0	9.1	10.3	7.8	7.6	8.9
Support	B	20.9	21.8	14.7	15.6	21.3	19.9	20.8	20.6	20.8
Neither Support nor Oppose	C	22.1	21.1	18.1	22.2	22.6	21.5	24.2	20.9	22.3
Oppose	D	21.6	20.2	25.6	28.8	21.9	20.7	22.7	23.8	21.8
Strongly Oppose	E	17.3	19.8	21.4	17.9	16.1	21.2	14.2	18.3	17.2
No Opinion	F	9.3	8.3	11.3	9.6	9.1	6.4	10.4	8.8	8.9
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		-1.3	-1.3	-2.0	-2.2	-1.3	-1.4	-1.3	-1.5	-1.3
No use of crossbows under any condition										
Strongly Support	A	10.3	11.5	14.7	7.9	10.2	16.4	9.6	8.7	10.4
Support	B	6.9	6.3	8.4	7.9	6.8	8.8	6.7	6.4	6.9
Neither Support nor Oppose	C	18.5	18.4	13.4	13.2	18.8	20.7	18.6	19.1	18.6
Oppose	D	23.1	22.7	23.9	23.8	23.2	21.0	23.1	25.2	23.4
Strongly Oppose	E	25.6	26.2	25.2	27.8	25.3	20.2	25.6	25.5	25.5
No Opinion	F	15.7	15.0	14.3	19.2	15.8	13.0	16.3	15.2	15.3
Ratio - Support:Oppose[(A+B)/(D+E)] or opposite $\frac{(D+E)}{(A+B)}$		-2.8	-2.7	-2.1	-3.3	-2.9	-1.6	-3.0	-3.4	-2.8
N		8258	1421	238	302	5415	377	2239	656	6700

DEER QUESTIONNAIRE

Initial notice

1. What is your county of residence? _____

2. How many of the following types of deer permits did you purchase during the 2004 hunting season, and how many deer did you harvest on these permits?

Permit Type	Number Purchased in 2004	Deer Harvested
Archery		
Firearms		
Bonus Antlerless		
Muzzleloader		
Archery Military/Refuge		
Firearms Military/Refuge		

3. Which equipment did you use to hunt deer during 2004?
(Check all that apply)

Archery _____ Shotgun _____ Muzzleloader _____
Handgun _____ Crossbow _____

4. Please complete the following table about your hunting activities in Indiana during 2004.

Did you hunt during this season? Check yes or no for each season	Yes No		County hunted most often	Total # of days hunted	Total # of deer killed
Early Urban Deer (Sep. 15 - Oct. 1)					
Early Archery (Oct. 1 - Nov. 28)					
Firearms (Nov. 13 - Dec. 28)					
Muzzleloader (Dec. 4 - Dec. 19)					
Late Archery (Dec. 4 - Jan. 2)					

5. Did you hunt deer on
a) the opening weekend of firearms season in 2004? ___ Yes ___ No
b) the last weekend of firearms season in 2004? ___ Yes ___ No

6. If you hunted in an urban deer zone either this year or last year with urban permits or with regular deer permits, list only the deer that you harvested in urban deer zones:

2003: # of antlered deer taken _____ # of antlerless deer taken _____
2004: # of antlered deer taken _____ # of antlerless deer taken _____

7. Please complete the following table concerning where you hunted deer in the 2004 Indiana season. Comment on all that apply. For satisfaction ratings, use the following letter scale:

A = Very Satisfied B = Satisfied C = Neither satisfied nor dissatisfied
D = Unsatisfied E = Very Unsatisfied F = No Opinion

Type of Area Hunted	# of Days Hunted	# Deer Harvested	Satisfaction of your experience
Land owned by the government but not a Fish & Wildlife Area			
Fish & Wildlife Area			
Land not owned by the government (Private Land including timber & coal companies etc)			

Use the following scale for each item in questions 8 and 9. Please give an answer for each statement:

A = Strongly Support B = Support C = Neither support nor oppose
D = Oppose E = Strongly oppose F = No Opinion

8. Do you support or oppose a youth firearm season prior to the regular firearm season under any of the following conditions:

- a) During one weekend in the early archery season, where hunter orange is required for all hunters and the season **is not closed** for archers? ___
- b) During one weekend in the early archery season, where hunter orange is required for all hunters and the season **is closed** for archers? ___
- c) During the last weekend in September (prior to early archery season) in which hunter orange is required for all hunters? ___
- d) Under conditions not described here: ___
- e) No special youth hunt under any condition ___

9. Do you support or oppose the use of crossbows under any of the following conditions:

- a) In Firearms Season ___
- b) In Early Archery Season ___
- c) In any season in which archery equipment is currently legal ___
- d) In any season in which archery equipment is currently legal, but for antlerless deer only ___
- e) In Late Archery Season only (as it currently exists) ___
- f) In Late Archery Season only for antlerless deer only ___
- g) I do not support a crossbow season under any condition ___

10. In conclusion, how satisfied are you with deer management in the state of Indiana?

___ Very Satisfied ___ Satisfied ___ Neither satisfied nor dissatisfied
___ Unsatisfied ___ Very Unsatisfied ___ No Opinion

Figure 1. Survey sent to Hunters after the 2004 hunting season concluded.

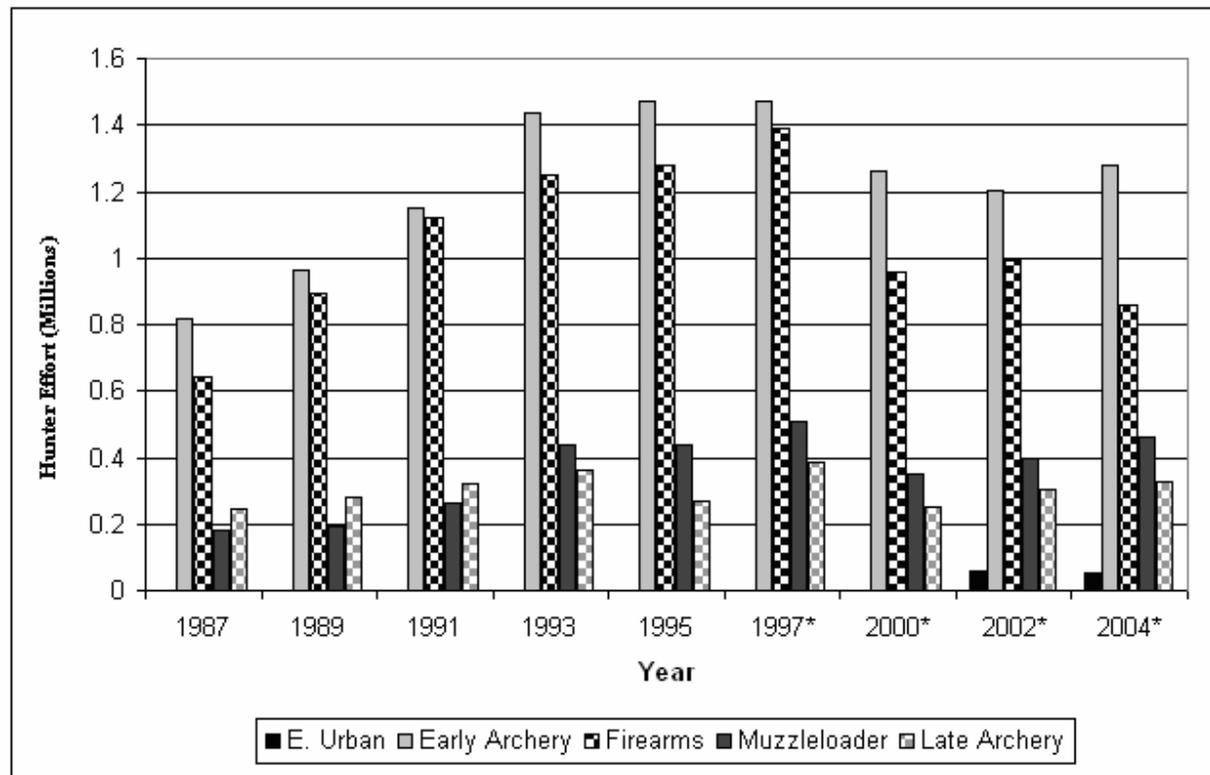
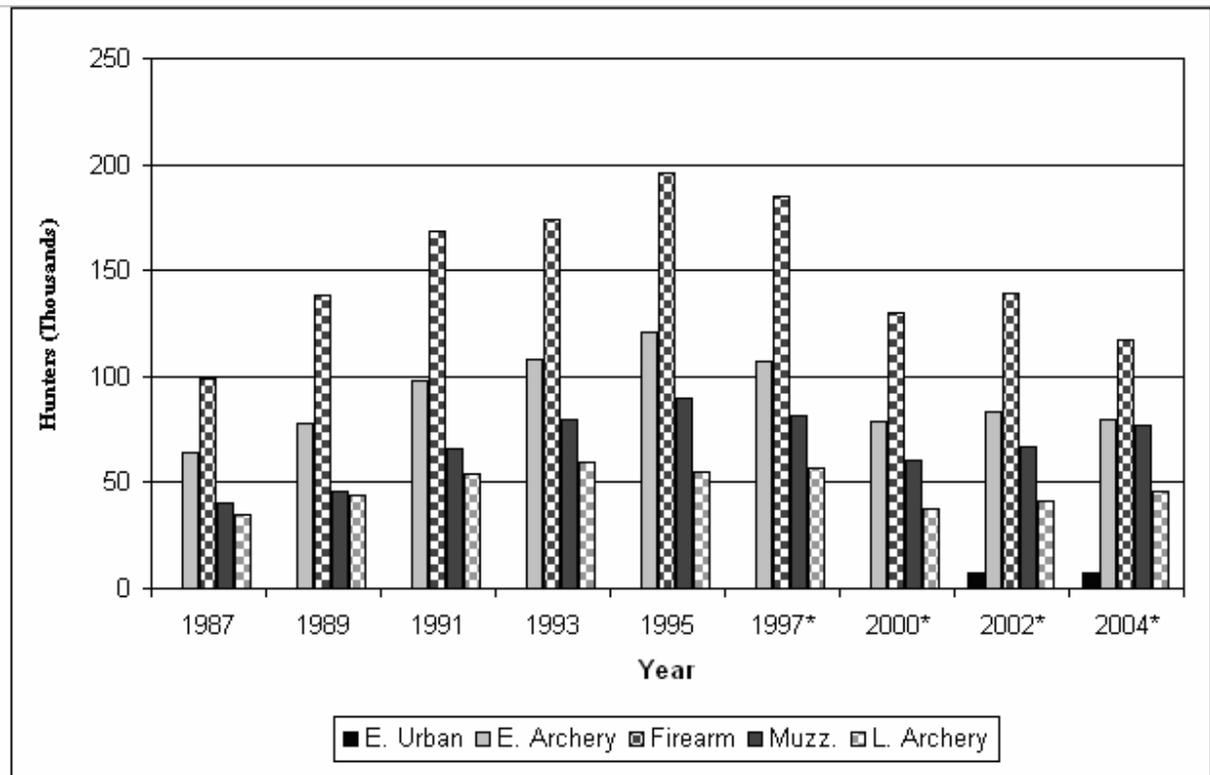


Fig. 2. Number of deer hunters and hunter efforts expended in season segments from 1987-2004. *Values calculated incorporating a correction factor from a 1997 non-response bias phone survey.

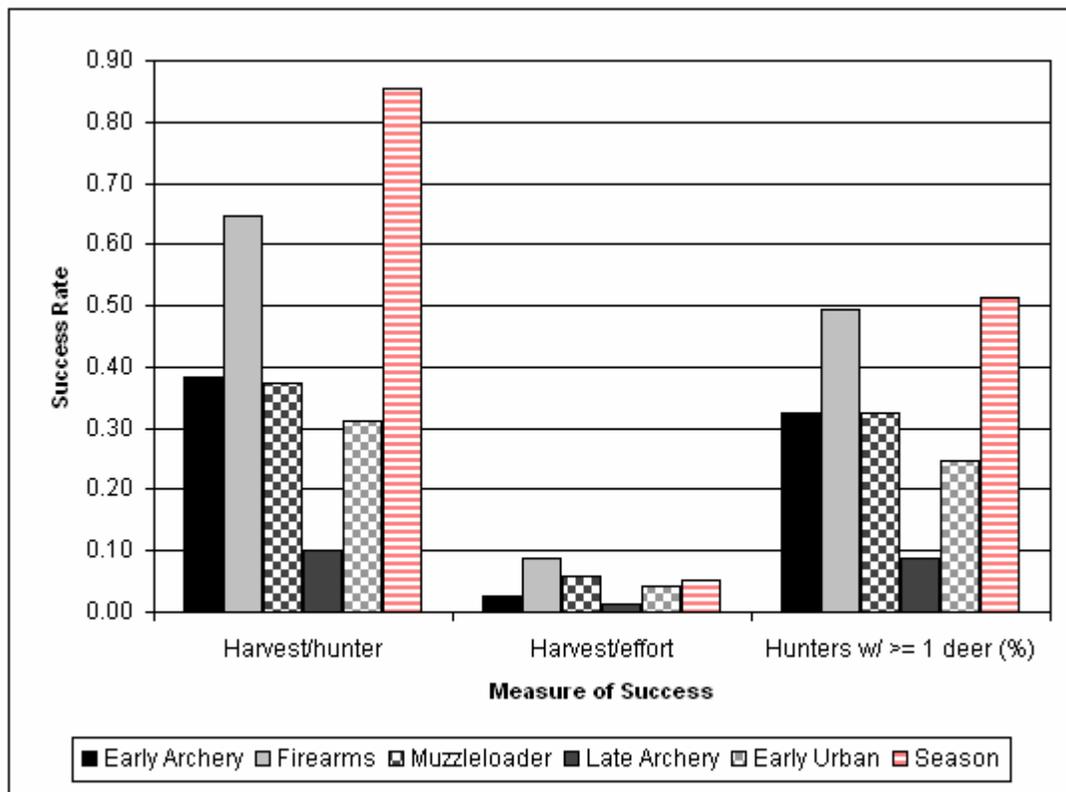


Fig. 3. Measures of hunting success for each segment of the 2004 season and the season at large.

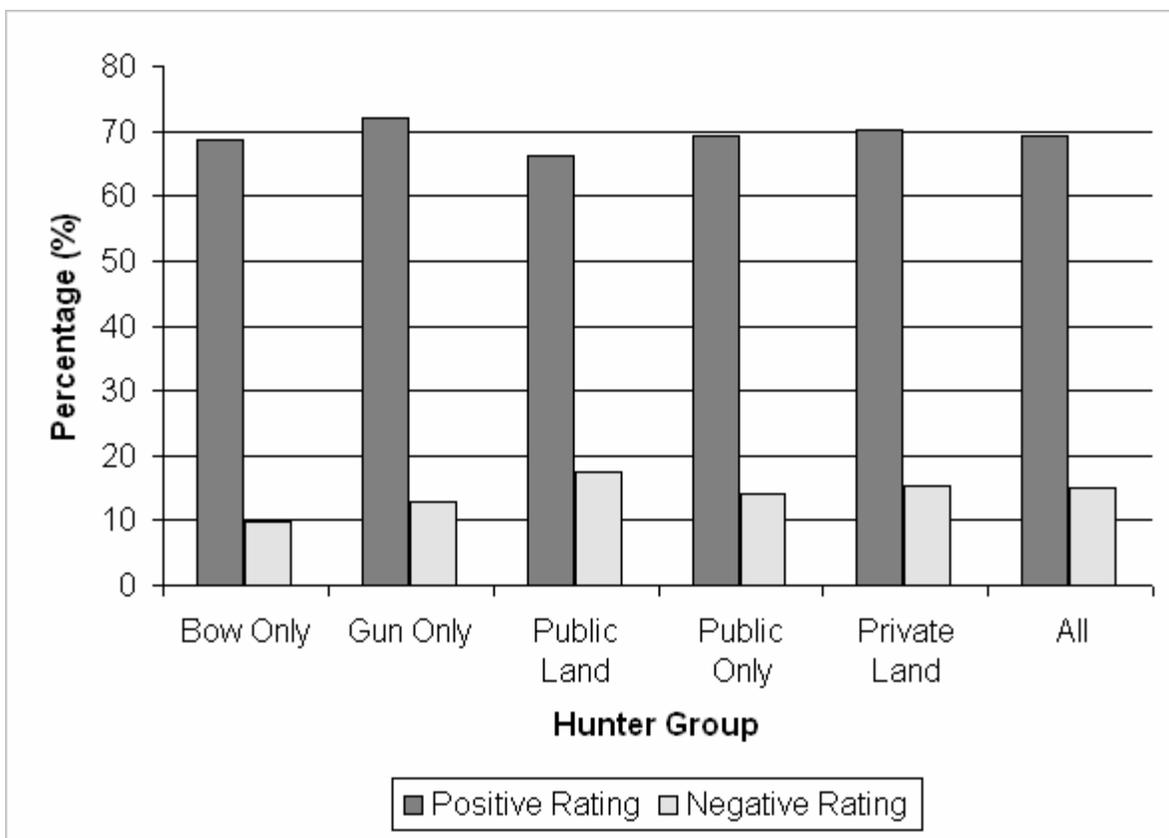


Fig. 4. Satisfaction with Indiana deer management by hunter sub-group shown as a percent of each group.